HOW ARE HUMANISTIC RESEARCH METHODS RELEVANT FOR HUMAN-ROBOT INTERACTION RESEARCH?

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HUMANITIES AND HUMAN-ROBOT INTERACTION RESEARCH?

- The human being
- How the human being understands the world
- How does the human being achieve a specific understanding of the world/life - together with other human beings and create what human beings amongst themselves call ’social life’ and ’society’, ’cultures’
- Mothers and fathers, daughters and sons
- Students and researchers
- Users
A SDU collaboration between Faculty of Humanities and Faculty of Engineering and Faculty of Health Sciences to develop better robots for physical training and rehabilitation
A SDU COLLABORATION BETWEEN FACULTY OF HUMANITIES AND FACULTY OF ENGINEERING AND FACULTY OF HEALTH SCIENCES TO DEVELOP BETTER ROBOTS FOR PHYSICAL TRAINING AND REHABILITATION

Embodiment

- Sound production, manipulation of objects, bodily movement
- (e.g.) bodily movements and actions and ways to interact with others, i.e. into embodied interaction

EMCA interaction research

- Assumption between human beings about reciprocal perspective
- Human beings/bodied individuals typify actions

The human being knows the world through bodily spontaneous responsiveness in direct engagement with it, i.e. through bodily experience (Merleau-Ponty 2012 [1945])

- Our reality, i.e. all that we are aware of, is in other words constituted by sensorimotor structures
- The world is our existence and we inhabit it
- Impairments – re-experience the body – re-inhabit the world, rehabilitate

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• Embodiment
• EMCA interaction research

as / simultaneous with

and perceived

Embodied actions and methods for social interaction


BODILY KNOWLEDGE OF ‘BEING LED BY SOMEONE/SOMETHING: “HOW ARE PEOPLE INDICATE BODILY ‘LEADING’ AND ‘BEING LED’?”

Courtesy to Cecilia Faden and Cecilie Wang Justesen, Faculty of Engineering, University of Southern Denmark.
Methods for analysis of physical HR-Interaction

- Video-recordings of embodied interaction with the robot
- Registration of numerical data through a device
- Analysis of both types of data and the relation between them.
METHOD FOR ANALYSIS OF PHYSICAL HR-INTERACTION

Bodily pattern of ‘how to move’ pivots on the first movement(s) in relation to position of the rope and the size of the body

Upon having established a routine in terms of a combination of structure of movement, velocity and their time derivatives, change of bodily position occurs not till after 3-4 pulls

• Where we make it possible for people to start will have an influence on how they proceed
• 3-4 pulls establish a routine in terms of force and bodily position
• Robotic indications of change not until after 3-4 pulls

ROBODY

1. The study of human bodily knowledge
2. How human bodily knowledge may be
   - used when using robots for training and rehabilitation purposes probably in modified versions
   - useful knowledge when programming robots for physical HR-interaction.
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THANK YOU FOR YOUR ATTENTION

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